First FarDet Cosmics Data: For Blessing (rough draft)
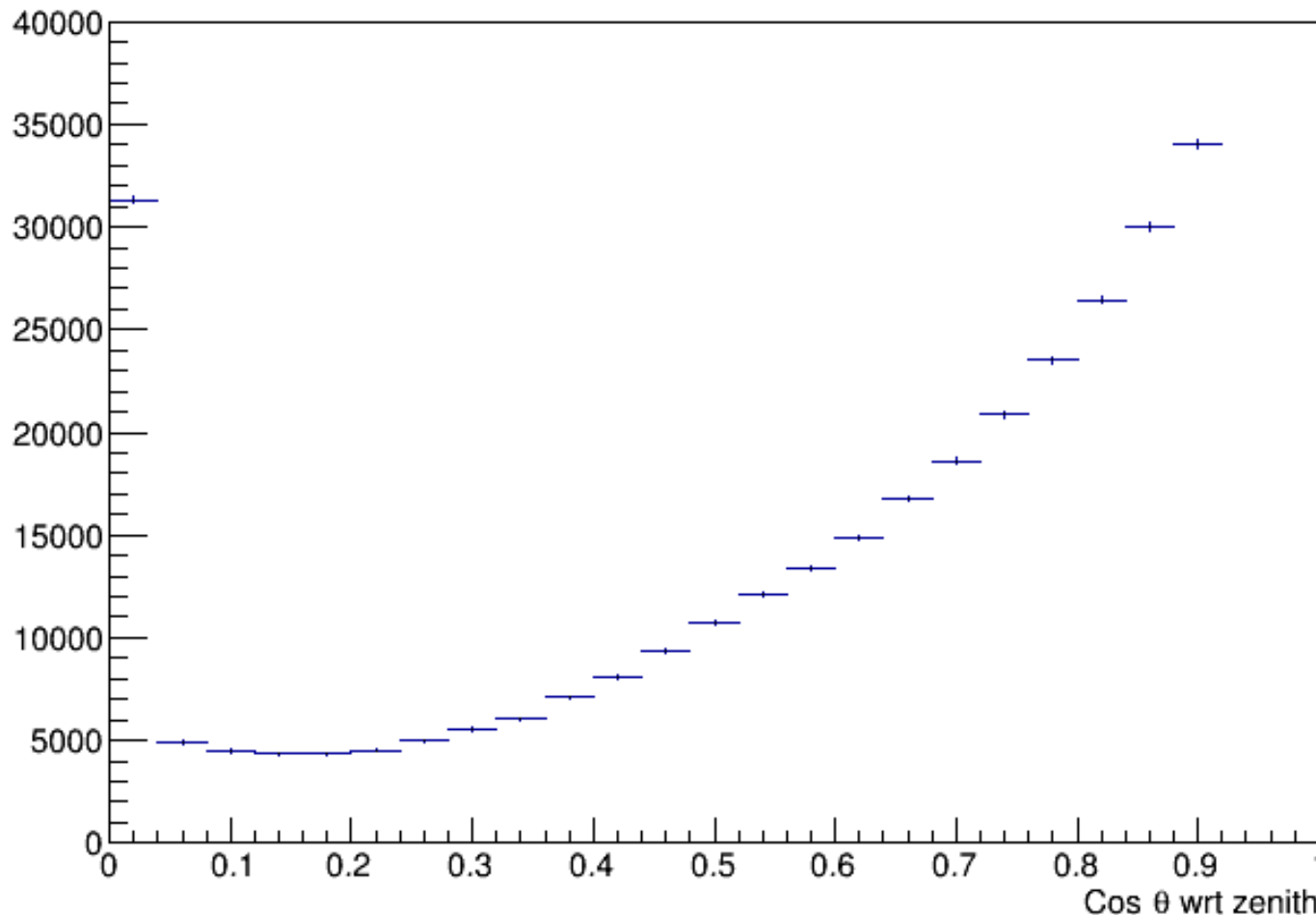
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Overview

- Processed data through reco/pid/caf from the /nova/data/novaroot/FarDet/development/ListOfGoodRunsFarDet.txt

- Run 10327 – Run 10343

- May 21st - May 30th

- Files have embedded ChannelInfo and RunHistory

- Fake Calibration, use MC

- Had to remove numusandbox (other caveats...), eventually hacked it to work for the variable I wanted
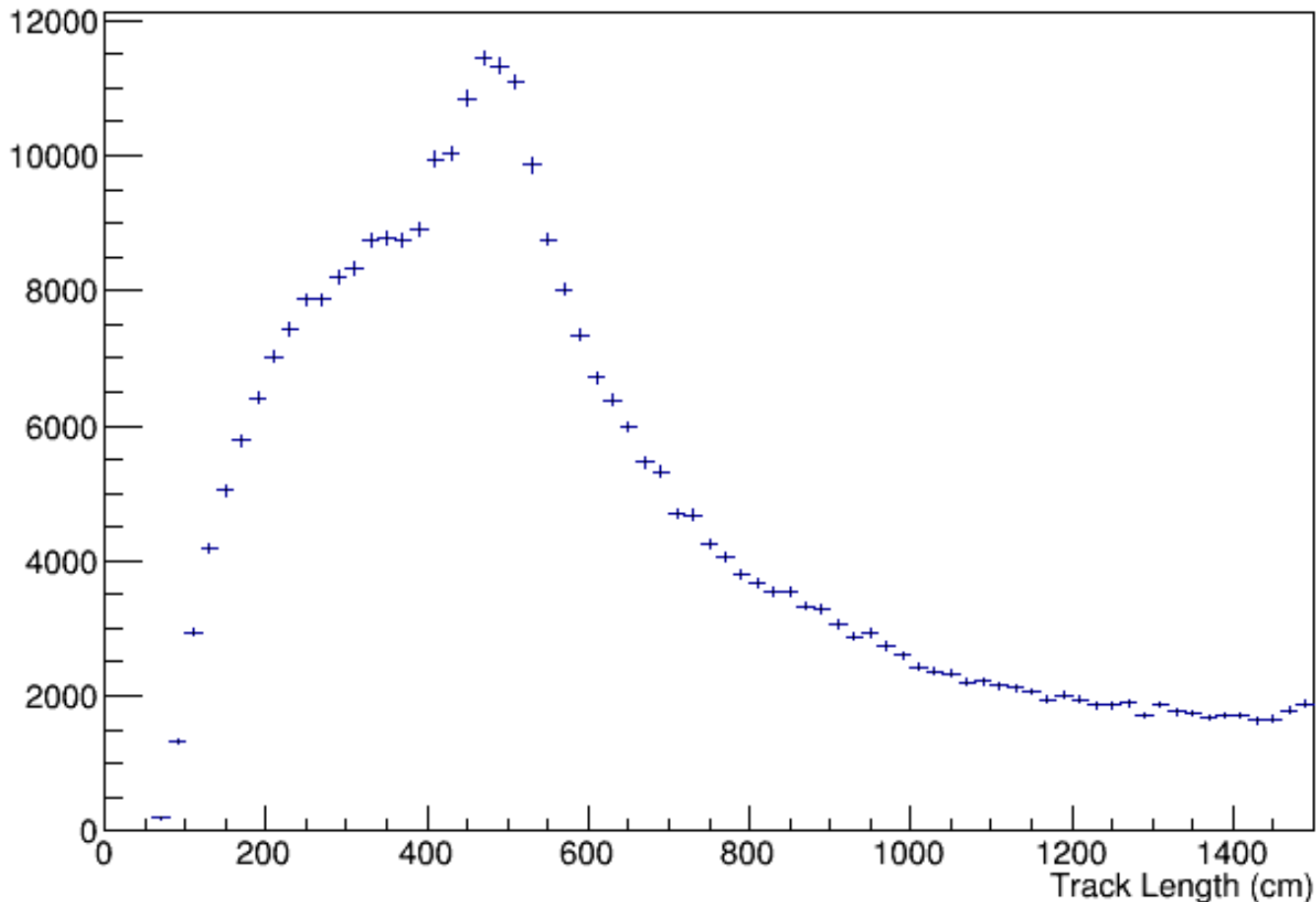
Cos cosmic (CosmicTrack) r10343

- For run 10343, plot distribution of the cosine angle with respect to zenith for CosmicTrack tracks (error is sum of squares of weights)
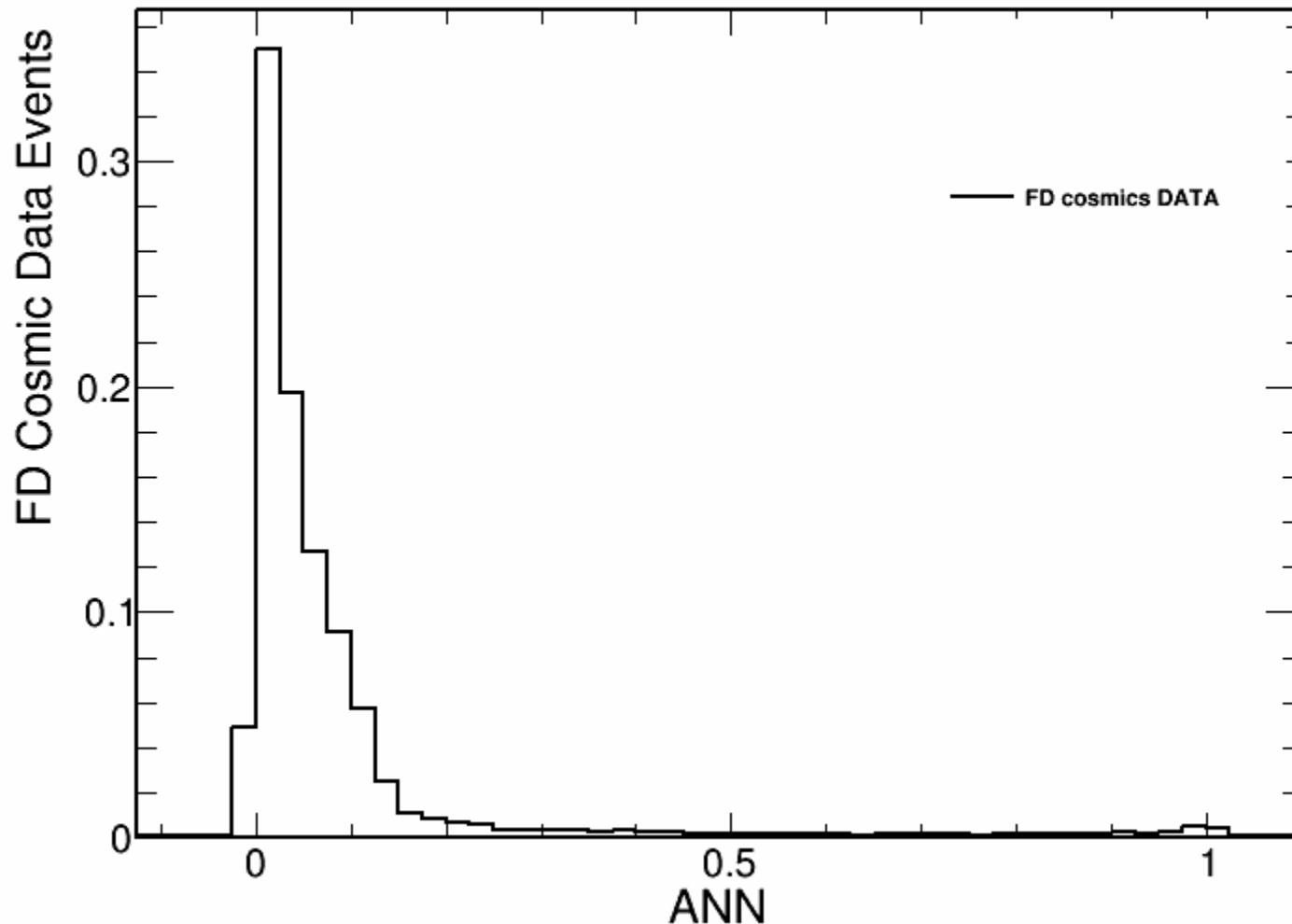
TrackLength (CosmicTrack) 10327

- For run 10343, plot distribution of CosmicTrack Track lengths.
- Peak around 400cm

- With preselection+containment cuts (area normalised)
- (3088 interactions remain from 7.1e6 interactions)
- I attempted to calculate the exposure normalisation for these and got that the 7.1e6 was only a factor of 2 less than the 3year exposure
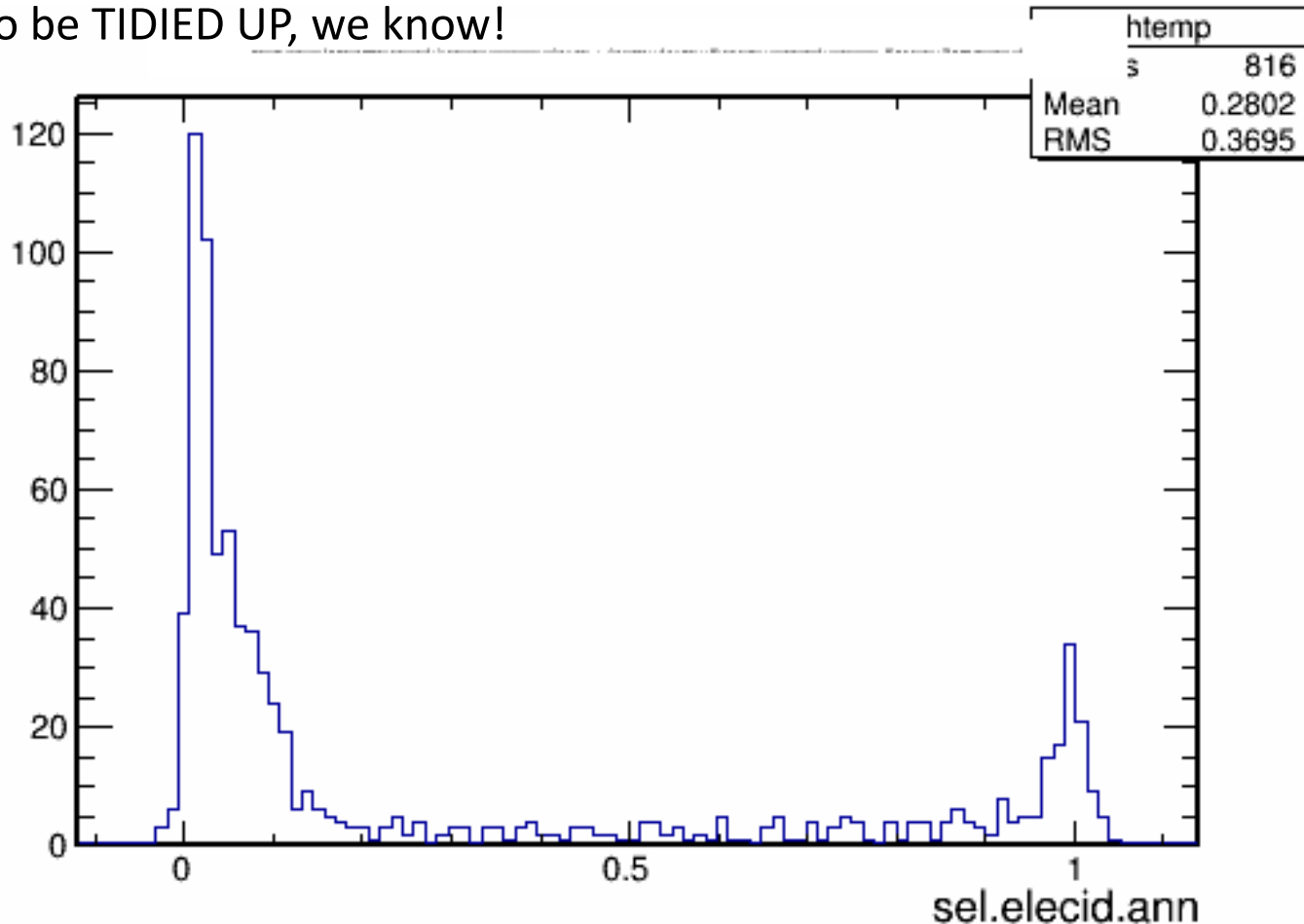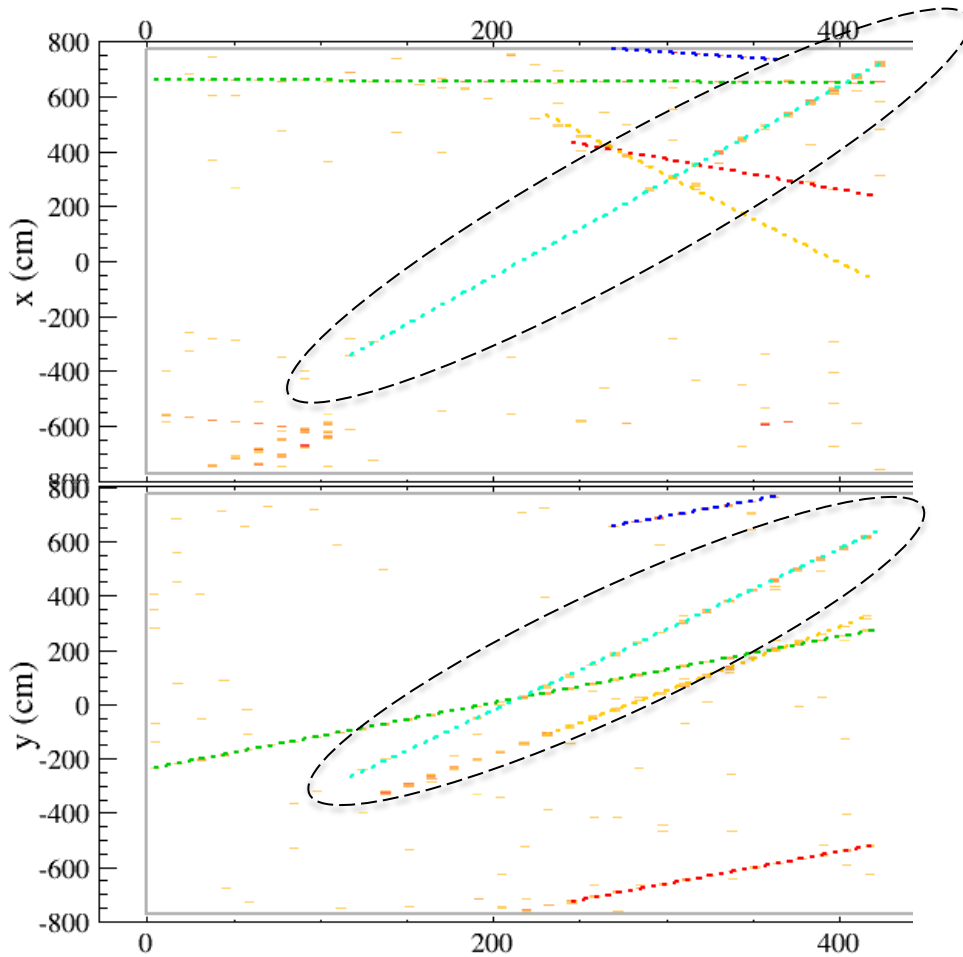
jmid

jmid

- With preselection+containment cuts + directionality (angle between "best"track (highest remid value) and neutrino (NOT normalised – raw event numbers!)
- (~150 interactions remain in signal region from original 7.1e6 interactions)
- Needs to be TIDIED UP, we know!

Event Display

- After preselection and for jmid >0.7, here is an example event remaining.
- Showing the fuzzyk tracks one can see that this fails a containment cut because the track start postion is in the uninstrumented second di-block (aqua track).